**Team A - Spring Validation Experiments**

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| **Test ID** | E - Obstacle-less package delivery test | |
| **Details** | Validates that packages can be delivered to a house without any obstacles in the path | |
| **Required** | Platform, Open space (outdoor environment), Fully equipped system. | |
| **Step** | **Step Description** | **Success condition** |
| E.1 | Place UAV with package at platform with visual marker |  |
| E.2 | Initiate system with GPS coordinates for the house and return point |  |
| E.3 | UAV takes off autonomously towards the house | Autonomously navigates using GPS to reach near given GPS coordinates |
| E.4 | Reaches waypoint near the house using GPS |
| E.5 | Identifies and navigates to the visually marked drop off point (with no obstacles in the path) | Identifies the visual marker near the house & autonomously navigates to it |
| E.6 | Lands and drops the package | Placed within 2m from marker |
| E.7 | Autonomously takes off and navigates to the GPS of the return point | Package dropped. UAV departs |
| E.8 | Detects, navigates and lands at the platform with the visual marker | Should land within 2m from the marker |

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| **Test ID** | F (uses E) - Package delivery test with obstacles | |
| **Details** | Validates that packages can be delivered to a house even with static obstacles in the path | |
| **Required** | Platform, Outdoor environment, Obstacles (cross section: 1.5m x 0.5m) | |
| **Step** | **Step Description** | **Success condition** |
| E1-E4 | Repeated |  |
| F.1 | Identifies the marker and plans path to navigate to it | Identifies the visual marker near GPS destination. |
| F.2 | Place an obstacle (1.5m x 0.5m) in the path of the UAV | Avoids the obstacle |
| F.3 | Place an obstacle (1.5m x 0.5m) on the side of the UAVs path |
| F.4 | Repeat with Random Positions |
| F.5 | Repeat with both obstacles, placed in 240 degree cone around vehicle |
| E.6-E8 | Repeated |  |